

Gut reaction linked to type 1 diabetes

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Understanding the link between diabetes and the gut could lead to the development of new therapies to delay the onset of type 1 diabetes, according to University of Queensland researchers.

UQ Diamantina Institute Senior Research Fellow Dr. Emma Hamilton-Williams said a change in microorganisms in the gut could help predict and monitor the progression of the disease.

"Type 1 diabetes is caused by an [immune attack](#) on the pancreas," she said.

"While there has been a suspected link between [gut bacteria](#) and [disease progression](#), a direct relationship between pancreas function and gut bacteria hasn't been shown until now.

"By studying the [stool samples](#) of participants, we found that changes in gut bacteria weren't just a side effect of the disease, but are likely related to disease progression.

"Seeing the same characteristics in recently diagnosed patients and undiagnosed high-risk relatives means these proteins may be used to predict a future diabetes diagnosis."

"Understanding what pathways lead patients to develop type 1 diabetes is key to developing new treatment strategies and accurately measuring the success of clinical trials.

"We would like to conduct a study where we monitor subjects before and after diagnosis to confirm whether the proteins we identified predict disease progression.

"The team is now involved in clinically trialling a specialised dietary supplement to target the [gut microbiota](#) in patients with type 1 diabetes.

"We hope that this treatment reverses the disease-associated changes we found in our study."

More information: Patrick G. Gavin et al. Intestinal Metaproteomics Reveals Host-Microbiota Interactions in Subjects at Risk for Type 1 Diabetes, *Diabetes Care* (2018). [DOI: 10.2337/dc18-0777](https://doi.org/10.2337/dc18-0777)

Provided by University of Queensland

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